


February 22, 2002

MEMORANDUM

TO: Bill Rogers, Title V Program Coordinator
Air Quality Division

FROM: Steve Ogle, E.I.T., Associate Engineer
Process Engineering, State Office of Technical Services 

SUBJECT: **TECHNICAL MEMORANDUM FOR TIER I OPERATING PERMIT**
AIRS Facility No. 017-00027, Riley Creek Lumber Co., Laclede
(Tier I Operating Permit)

Permittee:	Riley Creek Lumber Co.
Permit Number:	017-00027
Air Quality Control Region:	063
AIRS Facility Classification:	A
Standard Industrial Classification:	2421
Zone:	11
UTM Coordinates:	518.2, 5334.7
Facility Mailing Address:	P.O. Box 220, Laclede, ID 83841
County:	Bonner
Facility Contact Name and Title:	Steve Spletstoser, Operations Manager
Contact Name Phone Number:	(208) 263-7574
Responsible Official Name and Title:	Marc Brinkmeyer, Owner
Exact plant Location:	SW ¼ SE ¼ Section 30, Township 56 North, Range 5 West
General Nature of Business & Kinds of Products:	Sawmill – Dimensional Lumber

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LIST OF ACRONYMS

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DEQ	Idaho Department of Environmental Quality
dscf	Dry Standard Cubic Feet
EPA	United States Environmental Protection Agency
ESP	Electrostatic Precipitator
gr	Grain (1 pound = 7,000 grains)
IDAPA	A numbering designation for all administrative rules promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	Pound Per Hour
MACT	Maximum Achievable Control Technology
MMBtu	Million British Thermal Units
MMbdf	Million Board Feet
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
OP	Operating Permit
PM	Particulate Matter
PM ₁₀	Particulate Matter with an Aerodynamic Diameter of 10 Micrometers or Less
PSD	Prevention of Significant Deterioration
PTC	Permit To Construct
PTE	Potential to Emit
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
T/R	Transformer-rectification
T/yr	Tons Per Year
VOC	Volatile Organic Compound

PUBLIC COMMENT / AFFECTED STATES / EPA REVIEW SUMMARY

This permit has been issued as draft and has proceeded through a 30-day public comment period. The public comment period started on January 15, 2002 and ended on February 15, 2002. A public hearing was held on February 14, 2002. Responses to comments received during the public comment period can be found in Appendix E of this technical memorandum.

The proposed operating permit (OP) and the technical memorandum were sent to The United States Environmental Protection Agency (EPA) for the 45-day review period on March 3, 2002. The 45-day review period ended on April 20, 2002. No comments were received from EPA.

The states of Montana and Washington are located within 50 miles of this facility and their air quality may be affected by emissions from this source. Copies of the draft OP were sent to Montana and Washington at the start of the public comment period; however, no comments were received from either state.

1. PURPOSE

The purpose of this memorandum is to explain the legal and factual basis for this proposed Tier I OP in accordance with IDAPA 58.01.01.362 (Rules for the Control of Air Pollution in Idaho) (Rules).

The Idaho Department of Environmental Quality (DEQ) staff have reviewed the information provided by Riley Creek Lumber Co. (Riley Creek) regarding the operation of the sawmill located in Laclede, Idaho. This information was submitted based on the requirements to submit a Tier I OP in accordance with IDAPA 58.01.01.300.

2. SUMMARY OF EVENTS

On April 11, 1995, DEQ received a Tier I OP application from Riley Creek for its Laclede facility. The application was prepared by HOY Environmental Inc. On July 30, 1995, DEQ issued an incompleteness letter to Riley Creek requesting additional information for the Tier I OP. DEQ received additional information, submitted in the form of appendices to the initial Tier I OP application, from Bison Engineering Inc, on August 19, 1996.

On April 27, 2000, DEQ received a revised Tier I OP application, prepared by Lorenzen Engineering Inc., which updated the application to reflect changes in Idaho regulations, as well as process and equipment changes at the facility.

On September 5, 2001, DEQ issued an activation letter to Riley Creek, stating that the Tier I OP application was removed from backlog, and projected a final issuance date of April 30, 2002. A completeness letter was issued to Riley Creek on October 5, 2001. On January 15, 2002, DEQ issued a draft Tier I OP for the public comment and affected states review. The public comment period was open through February 15, 2002, and a public hearing was held on February 14, 2002. Responses to comments received during the public comment period can be found in Appendix E of this technical memorandum. On March 3, 2002, DEQ issued a proposed Tier I OP for 45-day EPA review. The review period ended on April 20, 2002, and DEQ received no comments from EPA.

3. BASIS OF THE ANALYSIS

The following documents were relied upon in preparing this memorandum and the Tier I OP:

- Tier I OP application, received April 27, 2000
- Facility comments on the Tier I OP draft, received December 6, 2001
- PTC No. 017-00027, issued on June 26, 2001
- Rules for the Control of Air Pollution in Idaho
- Code of Federal Regulations, Title 40
- Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, January 1995, Office of Air Quality Planning and Standards, EPA
- Guidance developed by EPA and DEQ
- Title V permits issued by other jurisdictions
- Documents and procedures developed in the Title V Pilot Operating Permit Program

4. FACILITY DESCRIPTION

4.1 GENERAL PROCESS DESCRIPTION

Riley Creek operates a lumber mill that includes a sawmill, drying kilns, a planer mill, and associated equipment. This equipment is used to process raw logs into dried lumber. A steam plant consisting of two wood-fired boilers provides steam to the facility. The facility has the potential to operate 24 hours per day, seven days per week, and 52 weeks per year, processing up to 200,000 million board feet

(MMbdf) annually. Refer to Appendix A for a schematic diagram of the general process flow at the facility.

Logs are delivered to the mill by truck and stored in the log decks until processed. Logs are transported by loaders to the debarking area, where bark is peeled from the logs. Bark from the debarkers is shredded through a hog and then conveyed to a drop pile, where it can be transferred via a front-end loader to the boiler fuel storage bin, the hog fuel pile, or to trucks for off-site sale. Fuel from the boiler fuel storage bin is augured to boiler No. 1, while fuel from the hog fuel pile is loaded into a hopper and conveyed to boiler No. 2.

Debarked logs enter the sawmill and are cut into lumber. Waste wood generated in the edging process is processed in a chipper and screened to separate fines and chips. Sawmill chips are pneumatically transferred to the railcar target box or conveyed to the chip truck bin for loadout and sale. Sawmill fines are combined with the sawmill sawdust and conveyed to a truck bin for loadout.

Lumber is sorted, stacked, and then dried in steam-heated kilns. Each kiln has multiple roof vents used to control the temperature within each kiln by releasing hot air from inside the kilns.

Lumber is then transferred to the planer mill, where it is planed and trimmed. Trimmed ends are chipped and transferred pneumatically to the railcar target box. Shavings from the planer are collected pneumatically by the planer shavings cyclone. Shavings are conveyed from the cyclone to a truck bin for loadout.

Finished lumber is sorted, graded, stacked, wrapped, and stored until off-site shipment by truck or rail car.

4.2 FACILITY CLASSIFICATION

The facility is classified as a major facility, in accordance with IDAPA 58.01.01.008.10, for Tier I permitting purposes because the facility has the potential to emit (PTE) carbon monoxide (CO) at a rate greater than 100 tons per year (T/yr). The facility is also major as defined in IDAPA 58.01.01.006.55 and is subject to Prevention of Significant Deterioration (PSD) permitting requirements because the facility's PTE CO is greater than 250 T/yr. The facility is not a designated facility as defined by IDAPA 58.01.01.006.27, or a listed facility as defined by 40 CFR §52.21(b)(i)(a). The facility is not subject to federal New Source Performance Standards (NSPS) in accordance with 40 CFR Part 60, National Emission Standards for Hazardous Air Pollutants (NESHAPs) in accordance with 40 CFR Part 61, or Maximum Achievable Control Technology Standards in accordance with 40 CFR Part 63. The standard industrial classification is 2421 and the Aerometric Information Retrieval System (AIRS)/AIRS Facility Subsystem classification is A.

4.3 AREA CLASSIFICATION

The facility is located within Air Quality Control Region 63 in Bonner County, which is classified as unclassifiable for all federal and state criteria air pollutants. There are no Class I areas within 10 kilometers of the facility.

4.4 PERMITTING HISTORY

<i>March 1, 1984:</i>	Air Pollution Source Permit No. 0240-0027 was issued for sawmill operation. Permitted sources include the hog fuel boiler (Perry Smith ABCO) and fugitive emissions.
<i>February 28, 1985:</i>	Air Pollution OP No. 0240-0027 was issued for sawmill operation. Permitted sources include source-specific fugitive emissions, hog fuel boiler (Perry Smith ABCO), planer, planer trim saw, three chippers, fugitive emissions from property, and roads.

- January 13, 1989:* Permit to Construct (PTC) No. 0240-0027 for boiler No. 1 (Perry Smith ABCO); Olivine burner; planer mill shavings cyclones, boiler fuel bin cyclone, truck bin shavings cyclone, truck bin chip cyclone, wastewood handling pneumatic shavings handling, pneumatic chip handling, and plant property and fugitive emissions sources.
- December 31, 1996:* PTC No. 017-00027 for boiler No. 2 (Kipper and Sons).
- July 21, 1997:* Director's Exemption for installation of two additional drying kilns.
- June 26, 2001* PTC No. 017-00027 to consolidate the two previous PTCs and update the new PTC to reflect current operations at the facility. This permit specifically addresses boiler Nos. 1 and 2, planer shavings cyclone baghouse, rail car target box, Olivine burner, and fugitive emissions.
- July 10, 2001:* Enforcement Consent Order requiring a baghouse on the planer shavings cyclone.

5. REGULATORY ANALYSIS

5.1 FACILITY-WIDE APPLICABLE REQUIREMENTS

5.1.1 Fugitive Particulate Matter – IDAPA 58.01.01.650-651

5.1.1.1 Requirement

Facility-wide Condition 1.1 states that all reasonable precautions shall be taken to prevent particulate matter (PM) from becoming airborne in accordance with IDAPA 58.01.01.650-651.

5.1.1.2 Compliance Demonstration

Facility-wide Condition 1.2 states that the permittee is required to monitor and maintain records of the frequency and the methods used by the facility to reasonably control fugitive particulate emissions. IDAPA 58.01.01.651 gives examples of ways to reasonably control fugitive emissions, which include using water or chemicals, applying dust suppressants, using control equipment, covering trucks, paving roads or parking areas, and removing materials from streets.

Facility-wide Condition 1.3 requires that the permittee maintain a record of all fugitive dust complaints received. In addition, the permittee is required to take appropriate corrective action as expeditiously as practicable after receipt of a valid complaint. The permittee is also required to maintain records that include the date each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

To ensure the permittee is using methods to reasonably control fugitive PM emissions whether or not a complaint is received, Facility-wide Condition 1.4 requires that the permittee conduct monthly inspections of the facility. The permittee is required to inspect potential sources of fugitive emissions during daylight hours and under normal operating conditions. If the permittee determines that the fugitive emissions are not being reasonably controlled the permittee shall take corrective action as expeditiously as practicable. The permittee is also required to maintain records of the results of each fugitive emission inspection.

Both Facility-wide Conditions 1.3 and 1.4 require the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid complaint or determining that fugitive particulate emissions are not being reasonably controlled meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

It should be noted that several emissions sources not specifically appearing in the Tier I OP as emission units are subject to Facility-wide Conditions 1.1 through 1.4. These sources include: hogged bark convey (debarker to hog shredder), hogged bark loading, hogged bark fuel pile, sawdust convey, sawmill chip bin convey (sawmill to bin), planer shavings cyclone, planer chipper room dust cyclone, unpaved area road dust fugitives, and paved area road dust fugitives.

5.1.2 Control of Odors – IDAPA 58.01.01.775-776

5.1.2.1 Requirement

Facility-wide Condition 1.5 and IDAPA 58.01.01.776 both state that: *"No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids to the atmosphere in such quantities as to cause air pollution."* This condition is currently considered federally enforceable until such time it is removed from the State Implementation Plan, at which time it will be a state-only enforceable requirement.

5.1.2.2 Compliance Demonstration

Facility-wide Condition 1.6 requires the permittee to maintain records of all odor complaints received. If the complaint has merit, the permittee is required to take appropriate corrective action as expeditiously as practicable. The records are required to contain the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Facility-wide Condition 1.6 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid odor complaint meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

5.1.3 Visible Emissions – IDAPA 58.01.01.625

5.1.3.1 Requirement

IDAPA 58.01.01.625 and Facility-wide Condition 1.7 state that *"(No) person shall discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20 percent opacity as determined..."* by IDAPA 58.01.01.625. This provision does not apply when the presence of uncombined water, nitrogen oxides, and/or chlorine gas is the only reason for the failure of the emission to comply with the requirements of this rule.

5.1.3.2 Compliance Demonstration

To ensure reasonable compliance with the visible emissions rule, Facility-wide Condition 1.8 requires that the permittee conduct quarterly visible emissions inspections of the facility. The permittee is required to inspect potential sources of visible emissions, during daylight hours and under normal operating conditions. The visible emissions inspection consists of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission covered by this section, the permittee must either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is determined to be greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee must take corrective action and report the exceedance in its annual compliance certification and in accordance with the excess emissions rules in IDAPA 58.01.01.130-136. The permittee is also required to maintain records of the results of each visible emissions inspection and each opacity test when conducted. These records must include the date of each inspection, a description of the permittee's assessment of the conditions existing at the time visible emissions are present, any corrective action taken in response to the visible emissions, and the date corrective action was taken.

It should be noted that if a specific emissions unit has a specific compliance demonstration method for visible emissions that differs from Facility-wide Condition 1.8, then the specific compliance demonstration method overrides the requirement of Condition 1.8. Condition 1.8 is intended for small sources that would generally not have any visible emissions.

Facility-wide Condition 1.8 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of discovering visible emissions meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

5.1.4 Excess Emissions – IDAPA 58.01.01.130-136

5.1.4.1 Requirement

Facility-wide Condition 1.9 requires that the permittee comply with the requirements of IDAPA 58.01.01.130-136 for startup, shutdown, scheduled maintenance, safety measures, upset, and breakdowns. This section is fairly self-explanatory and no additional detail is necessary in this technical analysis. However, it should be noted that subsections 133.02, 133.03, 134.04, and 134.05 are not specifically included in the permit as applicable requirements. These provisions of the Rules only apply if the permittee anticipates requesting consideration under subsection 131.02 to allow DEQ to determine if an enforcement action to impose penalties is warranted. Section 131.01 states, *"The owner or operator of a facility or emissions unit generating excess emissions shall comply with Sections 131, 132, 133.01, 134.01, 134.02, 134.03, 135, and 136, as applicable. If the owner or operator anticipates requesting consideration under Subsection 131.02, then the owner or operator shall also comply with the applicable provisions of Subsections 133.02, 133.03, 134.04, and 134.05."* Failure to prepare or file procedures pursuant to Sections 133.02 and 134.04 is not a violation of the Rules in and of itself, as stated in subsections 133.03.a and 134.06.b. Therefore, since the permittee has the option to follow the procedures in Subsections 133.02, 133.03, 134.04, and 134.05, and is not compelled to, the subsections are not considered applicable requirements for the purpose of this permit and are not included as such.

5.1.4.2 Compliance Demonstration

The compliance demonstration is contained within the text of Facility-wide Condition 1.9. No further clarification is necessary here.

5.1.5 Open Burning – IDAPA 58.01.01.600-616

Refer to Facility-wide Condition 1.10 and IDAPA 58.01.01.600-616.

5.1.6 Renovation/Demolition – 40 CFR §61, Subpart M

The regulations in 40 CFR §61, Subpart M, are intended to control asbestos releases to the atmosphere. Refer to Facility-wide Condition 1.11 and 40 CFR §61, Subpart M.

5.1.7 Regulated Substances for Accidental Release Prevention – 40 CFR §68.10(a)

Refer to Facility-wide Condition 1.12 and 40 CFR §68.10(a).

The facility is not currently subject to the requirements of 40 CFR §68; however, should the facility ever become subject to 40 CFR §68, it must comply with the following provisions contained within:

- Three years after the date on which a regulated substance present above a threshold quantity is first listed under 40 CFR §68.130, or
- The date that a regulated substance is first present above a threshold quantity in a process.

5.1.8 Fuel-burning Equipment – IDAPA 58.01.01.676-677

Refer to Facility-wide Condition 1.13 and IDAPA 58.01.01.676-677.

5.1.9 Fuel Sulfur Content – IDAPA 58.01.01.728

5.1.9.1 Requirement

Refer to Facility-wide Condition 1.14 and IDAPA 58.01.01.728.

5.1.9.2 Compliance Demonstration

Compliance with this permit condition shall be demonstrated by maintaining records from the fuel oil supplier in accordance with Permit Condition 1.17 of the Tier I OP (Facility-wide Monitoring and Recordkeeping).

5.1.10 Compliance Testing

Facility-wide Condition 1.15 outlines the DEQ-approved method(s) by which the permittee should perform compliance testing. This condition also contains reporting requirements for compliance tests. Refer to Facility-wide Condition 1.15 and IDAPA 58.01.01.157.

5.1.11 Test Methods

Facility-wide Condition 1.16 lists test methods to be used for compliance testing. Refer to Facility-wide Condition 1.16.

5.1.12 Monitoring and Recordkeeping

Refer to Facility-wide Condition 1.17 and IDAPA 58.01.01.322.07.

5.1.13 Reports and Certifications

Refer to Facility-wide Condition 1.18 and IDAPA 58.01.01.322.08.

5.2 EMISSIONS UNIT - BOILER NO. 1

5.2.1 Emissions Unit Description

Boiler No. 1 was originally built in 1976 and initially permitted for operation at Riley Creek by Air Pollution Source Permit No. 0240-00027, dated March 1, 1984. Control equipment on boiler No. 1 is a multicyclone and electrostatic precipitator (ESP) in series. The boiler is located in the steam plant building and operates solely on wood fuel. The boiler is operated 24 hours per day, seven days per week, and 52 weeks per year.

In the Tier I OP application, Riley Creek requested a determination of nonapplicability of NSPS requirements (40 CFR §60, Subpart Dc) for boiler No. 1. DEQ has reviewed the requirements of 40 CFR §60, Subpart Dc, and has determined that boiler No. 1 is not currently applicable to Subpart Dc because the boiler was constructed prior to 1976, and has not been modified or reconstructed since June 9, 1989 (the trigger date for Subpart Dc).

5.2.2 Grain-loading Standard, IDAPA 58.01.01.677

5.2.2.1 Requirement

Permit Condition 2.1 of the Tier I OP states:

"A person shall not discharge to the atmosphere from any fuel-burning equipment in operation prior to October 1, 1979, or with a maximum rated input of less than 10 million Btus per hour (MMBTU/hr), particulate matter in excess of 0.200 grains per dry standard cubic feet (gr/dscf) corrected to 8% oxygen."

Permit Condition 2.1 is a paraphrase of IDAPA 58.01.01.677, and is applicable to boiler No. 1, since the boiler has been in operation at Riley Creek since 1976 and is hog-fueled. Therefore, in accordance with IDAPA 58.01.01.322.01, this is an applicable Tier I OP standard. Permit Condition 1.1 for boiler No. 1 in PTC No. 017-00027, dated June 26, 2001, also requires boiler No. 1 to comply with this provision of the Rules.

5.2.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 2.13 of the Tier I OP states:

"Within the first year of the five-year Tier I OP term, the permittee shall conduct a performance test for PM and CO as specified in Permit Condition 1.15. The steaming rate of the boiler shall be monitored during the performance test."

Permit Condition 2.14 of the Tier I OP states:

"If the particulate grain loading measured during the initial performance test is less than or equal to 75% of the emission standard in IDAPA 58.01.01.677, no further testing shall be required during the permit term. If the particulate grain loading measured during the initial performance test is greater than 75% but less than or equal to 90% of the emission standard in IDAPA 58.01.01.677, a second test shall be required in the third year of the permit term. If the initial particulate grain loading measured during the performance test is greater than 90% of the emission standard in IDAPA 58.01.01.677, the permittee shall conduct a performance test annually."

Permit Condition 2.13 requires Riley Creek to performance test boiler No. 1 at least once per Tier I OP term (five years) for PM emissions. This permit condition also requires Riley Creek to monitor steaming rate during the performance test, which will result in an emissions factor for grain loading based on steaming rate. Permit Conditions 2.6 and 2.12 set a steaming rate limit for the boiler and require hourly monitoring of the steaming rate, which can be used in conjunction with the performance test emission factor to demonstrate intermittent compliance with the grain loading standard.

Permit Condition 2.14 requires further testing should the results of the initial performance test be within 75% of the limit specified in Permit Condition 2.1, and yearly performance testing if the initial performance test is within 90% of the limit specified in Permit Condition 2.1. These provisions assure compliance with Permit Condition 2.1 of the Tier I OP.

Permit Condition 2.20 of the Tier I OP states:

"The permittee shall report the results of the performance test required in Permit Condition 2.13 to the Department and EPA in a written report to be received no later than 30 days after completion of the test. If additional performance testing is performed in accordance with Permit Conditions 2.14, 2.15, or 2.16, the permittee shall report the results to the Department and EPA in a written report to be received no later than 30 days after completion of the test."

Permit Condition 2.20 requires reporting of the performance test(s) and Permit Condition 2.19 requires reporting of the steaming rate records.

5.2.3 Carbon Monoxide Emission Limits, PTC No. 017-00027

5.2.3.1 Requirement

Permit Condition 2.2 of the Tier I OP states:

"Carbon monoxide (CO) emissions from boiler No. 1 boiler stack shall not exceed 46 pounds per hour (lb/hr) or 203 tons per year (T/yr)."

Permit Condition 2.2 is a paraphrase of Permit Condition 1.2 for boiler No. 1 in PTC No. 017-00027, dated June 26, 2001, and is an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01.

5.2.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 2.13 of the Tier I OP states:

"Within the first year of the five-year Tier I OP term, the permittee shall conduct a performance test for PM and CO in Permit Condition 1.15. The steaming rate of the boiler shall be monitored during the performance test."

Permit Condition 2.15 of the Tier I OP states:

"If the CO emission rate measured in the initial performance test is less than or equal to 75% of the hourly emission rate limit in Permit Condition 2.2, no further testing shall be required during the permit term. If CO emission rate measured during the initial performance test is greater than 75% but less than or equal to 90% of the hourly emission rate limit in Permit Condition 2.2, a second test shall be required in the third year of the permit term. If the CO emission rate measured during the initial performance test is greater than 90% of the hourly emission rate limit in Permit Condition 2.2, the permittee shall conduct a performance test annually."

Permit Condition 2.13 requires Riley Creek to performance test boiler No. 1 stack at least once per Tier I OP term (five years) for CO emissions. This permit condition also requires Riley Creek to monitor steaming rate during the performance test, which will result in an emissions factor for CO emissions based on steaming rate. Permit Conditions 2.6 and 2.12 set a steaming rate limit for the boiler and require hourly monitoring of the steaming rate, which can be used in conjunction with the performance test emission factor to demonstrate intermittent compliance with the CO emission rate limit.

Permit Condition 2.15 requires further testing should the results of the initial performance test be within 75% of the limit specified in Permit Condition 2.2, and yearly performance testing if the initial performance test is within 90% of the limit specified in Permit Condition 2.2. These provisions assure compliance with Permit Condition 2.2 of the Tier I OP.

Permit Condition 2.20 of the Tier I OP states:

"The permittee shall report the results of the performance test required in Permit Condition 2.13 to the Department and EPA in a written report to be received no later than 30 days after completion of the test. If additional performance testing is performed in accordance with Permit Conditions 2.14, 2.15, or 2.16, the permittee shall report the results to the Department and EPA in a written report to be received no later than 30 days after completion of the test."

Permit Condition 2.20 requires reporting of the performance test(s) and Permit Condition 2.19 requires reporting of the steaming rate records.

5.2.4 Particulate Matter Emission Limits, PTC No. 017-00027

5.2.4.1 Requirement

Permit Condition 2.3 of the Tier I OP states:

"Particulate matter (PM) emissions from boiler No. 1 stack shall not exceed 22 lb/hr or 96 T/yr."

Permit Condition 2.3 is a paraphrase of Permit Condition 1.1 for boiler No. 1 in PTC No. 017-00027, dated June 26, 2001, and is an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01.

5.2.4.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 2.13 of the Tier I OP states:

"Within the first year of the five-year Tier I OP term, the permittee shall conduct a performance test for PM and CO as specified in Permit Condition 1.15. The steaming rate of the boiler shall be monitored during the performance test."

Permit Condition 2.16 of the Tier I OP states:

"If the PM emission rate measured in the initial performance test is less than or equal to 75% of the hourly emission rate limit in Permit Condition 2.3, no further testing shall be required during the permit term. If the PM emission rate measured during the initial performance test is greater than 75% but less than or equal to 90% of the hourly emission rate limit in Permit Condition 2.3, a second test shall be required in the third year of the permit term. If the PM emission rate measured during the initial performance test is greater than 90% of the hourly emission rate limit in Permit Condition 2.3, the permittee shall conduct a performance test annually."

Permit Condition 2.13 requires Riley Creek to performance test boiler No. 1 at least once per Tier I OP term (five years) for PM emissions. This permit condition also requires Riley Creek to monitor steaming rate during the performance test, which will result in an emissions factor for PM emissions based on steaming rate. Permit Conditions 2.6 and 2.12 set a steaming rate limit for the boiler and require hourly monitoring of the steaming rate, which can be used in conjunction with the performance test emission factor to demonstrate intermittent compliance with the PM emission rate limit.

Permit Condition 2.16 requires further testing should the results of the initial performance test be within 75% of the limit specified in Permit Condition 2.3, and yearly performance testing if the initial performance test is within 90% of the limit specified in Permit Condition 2.3. These provisions assure compliance with Permit Condition 2.3 of the Tier I OP.

Permit Condition 2.20 of the Tier I OP states:

"The permittee shall report the results of the performance test required in Permit Condition 2.13 to the Department and EPA in a written report to be received no later than 30 days after completion of the test. If additional performance testing is performed in accordance with Permit Conditions 2.14, 2.15, or 2.16, the permittee shall report the results to the Department and EPA in a written report to be received no later than 30 days after completion of the test."

Permit Condition 2.20 requires reporting of the performance test(s) and Permit Condition 2.19 requires reporting of the steaming rate records.

5.2.5 Visible Emissions, IDAPA 58.01.01.625

5.2.5.1 Requirement

Permit Condition 2.4 of the Tier I OP states:

"The permittee shall comply with Permit Condition 1.7."

Permit Condition 1.7 of the Tier I OP contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625; therefore, it is an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01. This standard was specifically applied to boiler No. 1 because it is specified in PTC No. 017-00027, dated June 26, 2001, as an emission limit for boiler No. 1 (Permit Condition 1.3 in the PTC).

5.2.5.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 2.18 of the Tier I OP states:

"The permittee shall comply with Permit Condition 1.8."

Permit Condition 1.8 requires quarterly facility-wide inspections for all potential sources of visible emissions. This section also requires recordkeeping of all inspections and any opacity tests conducted.

Permit Condition 2.22 requires a summary report of the visible emissions records required in Permit Condition 2.18 every six months.

5.2.6 Steaming Rate, PTC No. 017-00027

5.2.6.1 Requirement

Permit Condition 2.6 of the Tier I OP states:

"The maximum steaming rate of boiler No. 1 shall not exceed 40,200 lb/hr of steam averaged over a three-hour period. The allowable steaming rate can be modified by conducting a source test(s), which demonstrates compliance with applicable standards."

This is a direct quote of Permit Condition 2.1 for boiler No. 1 from PTC No. 017-00027, dated June 26, 2001, and is therefore an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01.

For Tier I OP concerns, the steaming rate, in conjunction with performance testing, is also used to show continual compliance with PM and CO emission rate limits (refer to Sections 5.2.2 through 5.2.4 of this technical memorandum).

5.2.6.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 2.12 of the Tier I OP states:

"The permittee shall monitor and record the steam production rate of boiler No. 1 hourly. The steam production rate shall be recorded as lb/hr. The steam production rate records shall be kept at the facility for the most recent five-year period and shall be made available to Department representatives upon request."

This provision of the Tier I OP requires that records be kept onsite for a five-year period. Originally, PTC No. 017-00027, dated June 26, 2001, required that records for the previous two-year period be maintained; however, IDAPA 58.01.01.322.07(c) requires that Tier I OP records are maintained for a five-year period.

Permit Condition 2.19 requires a summary report of the steaming rate records every six months.

5.2.7 Electrostatic Precipitator Voltage and Amperage, PTC No. 017-00027

5.2.7.1 Requirement

Permit Condition 2.11 of the Tier I OP states:

"The voltage and amperage applied by each T/R [transformer-rectification] set to the discharge electrodes shall be maintained within the manufacturer's and O&M manual's specifications. Documentation of both the manufacturer's and O&M manual's voltage and amperage specifications shall remain onsite at all times and shall be made available to Department representatives upon request."

This is a direct quote of Permit Condition 2.6 for boiler No. 1 from PTC No. 017-00027, dated June 26, 2001, and is therefore an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01.

5.2.7.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 2.17 of the Tier I OP states:

"The permittee shall monitor and record the voltage and amperage applied by each T/R set to the discharge electrodes hourly. A minimum of 20 hourly readings shall be recorded per day. The voltage and amperage recorded shall be consistent with the manufacturer's and O&M manual's units of measure. The voltage and amperage records shall be kept at the facility for the most recent five-year period and shall be made available to Department representatives upon request."

This provision of the Tier I OP requires that records be kept onsite for a five-year period. Originally, PTC No. 017-00027, dated June 26, 2001, required that records for the previous two-year period be maintained; however, IDAPA 58.01.01.322.07(c) requires that Tier I OP records are maintained for a five-year period.

Permit Condition 2.21 requires a summary report of the ESP monitoring data every six months.

5.3 EMISSIONS UNIT - BOILER NO. 2

5.3.1 Emissions Unit Description

Boiler No. 2 was originally constructed in 1975 and permitted in 1996 (PTC No. 017-00027, dated December 31, 1996) for installation at Riley Creek's facility. Control equipment on boiler No. 2 is a multicyclone and ESP in series. The boiler is located in the steam plant building and operates solely on wood fuel. The boiler is operated 24 hours per day, seven days per week, and 52 weeks per year.

In the Tier I OP application, Riley Creek requested a determination of nonapplicability of NSPS requirements (40 CFR §60, Subpart Dc) for boiler No. 1. DEQ has reviewed the requirements of 40 CFR §60, Subpart Dc, and has determined that Subpart Dc is not currently applicable to boiler No. 1 because the boiler was constructed in 1975 and has not been modified or reconstructed since June 9, 1989 (the trigger date for Subpart Dc).

5.3.2 Grain-loading Standard, IDAPA 58.01.01.677

5.3.2.1 Requirement

Permit Condition 3.1 of the Tier I OP states:

"A person shall not discharge to the atmosphere from any fuel-burning equipment in operation on or after October 1, 1979, with a maximum rated input equal to or exceeding 10 MMBtu/hr, particulate matter in excess of 0.080 gr/dscf corrected to 8% oxygen."

Permit Condition 3.1 is a paraphrase of IDAPA 58.01.01.677, and is applicable to boiler No. 2 because the boiler has been in operation at Riley Creek since 1996 and is hog-fired. Therefore, in accordance with IDAPA 58.01.01.322.01, this is an applicable Tier I OP standard. Permit Condition 1.1 for boiler No. 2 in PTC No. 017-00027, dated June 26, 2001, also requires boiler No. 2 to comply with this provision of the Rules.

5.3.2.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 3.14 of the Tier I OP states:

"Within the first year of the five-year Tier I OP term, the permittee shall conduct a performance test for PM and CO as specified in Permit Condition 1.15. The steaming rate of the boiler shall be monitored during the performance test."

Permit Condition 3.15 of the Tier I OP states:

"If the particulate grain loading measured in the initial performance test is less than or equal to 75% of the emission standard in IDAPA 58.01.01.677, no further testing shall be required during the permit term. If the particulate grain loading measured during the initial performance test is greater than 75%, but less than or equal to 90% of the emission standard in IDAPA 58.01.01.677, a second test shall be required in the third year of the permit term. If the initial particulate grain-loading measured during the performance test is greater than 90% of the emission standard in IDAPA 58.01.01.677, the permittee shall conduct a performance test annually."

Permit Condition 3.14 requires Riley Creek to performance test boiler No. 2 at least once per Tier I OP term (five years) for PM emissions. This permit condition also requires Riley Creek to monitor steaming rate during the performance test, which will result in an emissions factor for grain loading based on steaming rate. Permit Conditions 3.6 and 3.13 set a steaming rate limit for the boiler and require hourly monitoring of the steaming rate, which can be used in conjunction with the performance test emission factor to demonstrate intermittent compliance with the grain-loading standard.

Permit Condition 3.15 requires further testing should the results of the initial performance test be within 75% of the limit specified in Permit Condition 3.1, and yearly performance testing if the initial performance test is within 90% of the limit specified in Permit Condition 3.1. These provisions assure compliance with Permit Condition 3.1 of the Tier I OP.

Permit Condition 3.21 of the Tier I OP states:

"The permittee shall report the results of the performance test required in Permit Condition 3.14 to the Department and EPA in a written report to be received no later than 30 days after completion of the test. If additional performance testing is performed in accordance with Permit Conditions 3.15, 3.16, 3.17, the permittee shall report the results to the Department and EPA in a written report to be received no later than 30 days after completion of the test."

Permit Condition 3.21 requires reporting of the performance test(s) and Permit Condition 3.20 requires reporting of the steaming rate records.

5.3.3 Carbon Monoxide Emission Limits, PTC No. 017-00027

5.3.3.1 Requirement

Permit Condition 3.2 of the Tier I OP states:

"Carbon monoxide (CO) emissions from boiler No. 2 stack shall not exceed 70 lb/hr or 306 T/yr."

Permit Condition 3.2 is a paraphrase of Permit Condition 1.2 for boiler No. 2 in PTC No. 017-00027, dated June 26, 2001, and is an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01.

5.3.3.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 3.14 of the Tier I OP states:

"Within the first year of the five-year Tier I OP term, the permittee shall conduct a performance test for PM and CO as specified in Permit Condition 1.15. The steaming rate of the boiler shall be monitored during the performance test."

Permit Condition 3.16 of the Tier I OP states:

"If the CO emission rate measured in the initial performance test is less than or equal to 75% of the hourly emission rate limit in Permit Condition 3.2, no further testing shall be required during the permit term. If the CO emission rate measured during the initial performance test is greater than 75%, but less than or equal to 90% of the hourly emission rate limit in Permit Condition 3.2, a second test shall be required in the third year of the permit term. If the CO emission rate measured during the initial performance test is greater than 90% of the hourly emission rate limit in Permit Condition 3.2, the permittee shall conduct a performance test annually."

Permit Condition 3.14 requires Riley Creek to performance test boiler No. 2 at least once per Tier I OP term (five years) for CO emissions. This permit condition also requires Riley Creek to monitor steaming rate during the performance test, which will result in an emissions factor for CO emissions based on steaming rate. Permit Conditions 3.6 and 3.13 set a steaming rate limit for the boiler and require hourly monitoring of the steaming rate, which can be used in conjunction with the performance test emission factor to demonstrate intermittent compliance with the CO emission limit.

Permit Condition 3.16 requires further testing should the results of the initial performance test be within 75% of the limit specified in Permit Condition 3.2, and yearly performance testing if the initial performance test is within 90% of the limit specified in Permit Condition 3.2. These provisions assure compliance with Permit Condition 3.2 of the Tier I OP.

Permit Condition 3.21 of the Tier I OP states:

"The permittee shall report the results of the performance test required in Permit Condition 3.14 to the Department and EPA in a written report to be received no later than 30 days after completion of the test. If additional performance testing is performed in accordance with Permit Conditions 3.15, 3.16, 3.17, the permittee shall report the results to the Department and EPA in a written report to be received no later than 30 days after completion of the test."

Permit Condition 3.21 requires reporting of the performance test(s) and Permit Condition 3.20 requires reporting of the steaming rate records.

5.3.4 Particulate Matter Emission Limits, PTC No. 017-00027

5.3.4.1 Requirement

Permit Condition 3.3 of the Tier I OP states:

"Particulate matter (PM) emissions from boiler No. 2 stack shall not exceed 12 lb/hr or 53 T/yr."

Permit Condition 3.3 is a paraphrase of Permit Condition 1.1 for boiler No. 2 in PTC No. 017-00027, dated June 26, 2001, and is an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01.

5.3.4.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 3.14 of the Tier I OP states:

"Within the first year of the five-year Tier I OP term, the permittee shall conduct a performance test for PM and CO to the Department as specified in Permit Condition 1.15. The steaming rate of the boiler shall be monitored during the performance test."

Permit Condition 3.17 of the Tier I OP states:

"If the PM emission rate measured in the initial performance test is less than or equal to 75% of the hourly emission rate limit in Permit Condition 3.3, no further testing shall be required during the permit term. If the PM emission rate measured during the initial performance test is greater than 75%, but less than or equal to 90% of the hourly emission rate limit in Permit Condition 3.3, a second test shall be required in the third year of the permit term. If the PM emission rate measured during the initial performance test is greater than 90% of the hourly emission rate limit in Permit Condition 3.3, the permittee shall conduct a performance test annually."

Permit Condition 3.14 requires Riley Creek to performance test boiler No. 2 at least once per Tier I OP term (five years) for PM emissions. This permit condition also requires Riley Creek to monitor steaming rate during the performance test, which will result in an emissions factor for PM emissions based on steaming rate. Permit Conditions 3.6 and 3.13 set a steaming rate limit for the boiler and require hourly monitoring of the steaming rate, which can be used in conjunction with the performance test emission factor to demonstrate intermittent compliance with the PM emission limit.

Permit Condition 3.17 requires further testing should the results of the initial performance test be within 75% of the limit specified in Permit Condition 3.3, and yearly performance testing if the initial performance test is within 90% of the limit specified in Permit Condition 3.3. These provisions assure compliance with Permit Condition 3.3 of the Tier I OP.

Permit Condition 3.21 of the Tier I OP states:

"The permittee shall report the results of the performance test required in Permit Condition 3.14 to the Department and EPA in a written report to be received no later than 30 days after completion of the test. If additional performance testing is performed in accordance with Permit Conditions 3.15, 3.16, 3.17, the permittee shall report the results to the Department and EPA in a written report to be received no later than 30 days after completion of the test."

Permit Condition 3.21 requires reporting of the performance test(s) and Permit Condition 3.20 requires reporting of the steaming rate records.

5.3.5 Visible Emissions, IDAPA 58.01.01.625

5.3.5.1 Requirement

Permit Condition 3.4 of the Tier I OP states:

"The permittee shall comply with Permit Condition 1.7."

Permit Condition 1.7 of the Tier I OP contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625; therefore, it is an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01. This standard was specifically applied to boiler No. 2 because it is

specified in PTC No. 017-00027, dated June 26, 2001, as an emission limit for boiler No. 2 (Permit Condition 1.3 in the PTC).

5.3.5.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 3.19 of the Tier I OP states:

"The permittee shall comply with Permit Condition 1.8."

Permit Condition 1.8 requires quarterly facility-wide visible emission inspections for all potential sources of visible emissions. This section also requires recordkeeping of all inspections and any opacity tests conducted.

Permit Condition 3.23 requires a summary report of the visible emissions records required in Permit Condition 3.19 every six months.

5.3.6 Steaming Rate, PTC No. 017-00027

5.3.6.1 Requirement

Permit Condition 3.6 of the Tier I OP states:

"The maximum steaming rate of boiler No. 2 shall not exceed 39,200 lb/hr of steam averaged over a three-hour period. The allowable steaming rate can be modified by conducting a source test(s), which demonstrates compliance with applicable standards."

This is a direct quote of Permit Condition 2.1 for boiler No. 2 from PTC No. 017-00027, dated June 26, 2001, and is therefore an applicable regulation for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01.

For Tier I OP concerns, the steaming rate, in conjunction with performance testing, is also used to show continual compliance with PM and CO emission rate limits (refer to Sections 5.3.2 through 5.3.4 of this technical memorandum).

5.3.6.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 3.13 of the Tier I OP states:

"The permittee shall monitor and record the steam production rate of boiler No. 2 hourly. The steam production rate shall be recorded as lb/hr. The steam production rate records shall be kept at the facility for the most recent five-year period and shall be made available to Department representatives upon request."

This provision of the Tier I OP requires that records be kept onsite for a five-year period. Originally, PTC No. 017-00027, dated June 26, 2001, required that records for the previous two-year period be maintained; however, IDAPA 58.01.01.322.07(c) requires that Tier I OP records are maintained for a five-year period.

Permit Condition 3.20 requires a summary report of the steaming rate records every six months.

5.3.7 Electrostatic Precipitator Voltage and Amperage, PTC No. 017-00027

5.3.7.1 Requirement

Permit Condition 3.12 of the Tier I OP states:

"The voltage and amperage applied by each T/R set to the discharge electrodes shall be maintained within the manufacturer's and O&M manual's specifications. Documentation of both the manufacturer's and O&M manual's voltage and amperage specifications shall remain onsite at all times and shall be made available to Department representatives upon request."

This is a direct quote of Permit Condition 2.7 for boiler No. 2 from PTC No. 017-00027, dated June 26, 2001, and is therefore an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01.

5.3.7.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 3.18 of the Tier I OP states:

"The permittee shall monitor and record the voltage and amperage applied by each T/R set to the discharge electrodes hourly. A minimum of 20 hourly readings shall be recorded per day. The voltage and amperage recorded shall be consistent with the manufacturer's and O&M manual's units of measure. The voltage and amperage records shall be kept at the facility for the most recent five-year period and shall be made available to Department representatives upon request."

This provision of the Tier I OP requires that records be kept onsite for a five-year period. Originally, PTC No. 017-00027, dated June 26, 2001, required that records for the previous two-year period be maintained; however, IDAPA 58.01.01.322.07(c) requires that Tier I OP records are maintained for a five-year period.

Permit Condition 3.22 requires a summary report of the ESP monitoring data every six months.

5.4 EMISSIONS UNIT – RAIL CAR TARGET BOX, PLANER SHAVINGS CYCLONE BAGHOUSE, AND OLIVINE BURNER

5.4.1 Emissions Unit Description

The sources listed in this section of the Tier I OP are currently permitted in PTC No. 017-00027, dated June 26, 2001.

The rail car target box receives wood chips pneumatically from the sawmill and planer mill, and is classified as a point source due to the presence of an air-displacement stack. The planer shavings cyclone baghouse is required to be fully implemented and operational by July 12, 2002, in accordance with the consent order dated July 10, 2001, as part of the DEQ-approved supplemental environmental project. The Olivine burner is no longer in use at Riley Creek; however, it is still subject to regulation until such time as it is dismantled and moved off-site.

5.4.2 Process Weight Rate Standard for Rail Car Target Box, PTC No. 017-00027

5.4.2.1 Requirement

Permit Condition 1.1 for the rail car target box in PTC No. 017-00027, dated June 26, 2001 states:

"PM emissions from the rail car target box shall not exceed 0.2 gr/dscf as required by IDAPA 58.01.01.710.08(a)."

IDAPA 58.01.01.710 is a state-only requirement until EPA approval for the State Implementation Plan.

The PTC treated the target box as a point source, rather than a fugitive source, due to the presence of a stack allowing displacement of air as the target box is filled (refer to the Technical Memorandum for PTC No. 017-00027, dated June 15, 2001).

DEQ has determined that the potential PM emissions from the rail car target box are less than 1 lb/hr (refer to Appendix B for calculations); therefore, the rail car target box is exempt from the requirements of IDAPA 58.01.01.710.08, in accordance with IDAPA 58.01.01.710.02. Therefore, this permit condition from the PTC has not been included in the Tier I OP.

Furthermore, DEQ has determined that the process weight rate requirements contained in IDAPA 58.01.01.701, 702, and 703 do not apply either because potential emissions from the target box stack are less than 1 lb/hr. In accordance with IDAPA 58.01.01.700.02, no performance shall be required to meet an emission limit of less than 1 lb/hr.

5.4.3 Grain-loading Standard and PM Emission Limits for Planer Shavings Cyclone Baghouse, PTC No. 017-00027

5.4.3.1 Requirement

Permit Condition 4.1 of the Tier I OP states:

"Particulate matter (PM) emissions from the planer shavings cyclone baghouse shall not exceed 0.1 gr/dscf as required by IDAPA 58.01.01.710.08(b), nor shall they exceed 2.14 lb/hr or 9.39 T/yr."

This is a direct quote of Permit Condition 1.2 for the planer shavings cyclone baghouse from PTC No. 017-00027, dated June 26, 2001, and is therefore an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01. IDAPA 58.01.01.710 is a state-only requirement until EPA approval for the State Implementation Plan.

5.4.3.2 Monitoring, Recordkeeping, and Reporting

The planer shavings cyclone baghouse has a manufacturer guarantee specifying an emission rate of 0.005 gr/dscf, as long as the baghouse is operated as specified; therefore, the grain-loading standard and the PM emission rate limits will be met if the baghouse is operated as specified by the manufacturer. Appendix C shows baghouse emission estimates that satisfy the requirements of Permit Condition 4.2, based on the manufacturer guaranteed emission rate.

Permit Condition 4.8 of the Tier I OP specifies that Riley Creek must maintain a pressure differential across the baghouse, based on the manufacturer and O&M manual's specifications (refer to Section 5.4.6 of this technical memorandum). As long as Riley Creek demonstrates compliance with Permit Condition 4.8, compliance is shown for Permit Condition 4.2. No further demonstration of compliance for Permit Condition 4.2 is necessary.

5.4.4 Fugitive Emissions IDAPA, 58.01.01.651

5.4.4.1 Requirement

Permit Condition 4.2 of the Tier I OP states:

"The permittee shall comply with Permit Condition 1.1."

Permit Condition 1.1 of the Tier I OP contains a facility-wide standard for reasonable control of fugitive PM emissions, in accordance with IDAPA 58.01.01.650-651; therefore, it is an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01. This standard was specifically applied to the rail car target box, planer shavings cyclone baghouse, and Olivine burner because it is specified in PTC No. 017-00027, dated June 26, 2001, as an operating requirement for these emissions units (Permit Condition 2.2 in the PTC).

5.4.4.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 4.10 of the Tier I OP states:

"The permittee shall comply with Permit Conditions 1.2 through 1.4."

Permit Conditions 1.2 through 1.4 of the Tier I OP contain monitoring requirements regarding fugitive emissions, including preventative measures, complaints, and inspections.

Permit Condition 4.12 requires a summary report of the fugitive emissions records generated by Permit Condition 4.10 every six months.

5.4.5 Opacity Standard for Planer Shavings Cyclone Baghouse and Rail Car Target Box Stack, PTC No. 017-00027

5.4.5.1 Requirement

Permit Condition 4.3 of the Tier I OP states:

"The permittee shall comply with Permit Condition 1.7."

Permit Condition 1.7 of the Tier I OP contains facility-wide standards for opacity, in accordance with IDAPA 58.01.01.625; therefore, it is an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01. This standard was specifically applied to rail car target box and planer shavings cyclone baghouse because it is specified in PTC No. 017-00027, dated June 26, 2001, as an emission limit for rail car target box and planer shavings cyclone baghouse (Permit Condition 1.3 in the PTC).

5.4.5.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 4.11 of the Tier I OP states:

"The permittee shall comply with Permit Condition 1.8."

Permit Condition 1.8 requires quarterly facility-wide emission inspections for all potential sources of visible emissions. This section also requires recordkeeping of all inspections and any opacity tests conducted.

Permit Condition 4.14 requires a summary report of the records generated by Permit Condition 4.11 every six months.

5.4.6 Pressure Differential for Planer Shavings Cyclone Baghouse, PTC No. 017-00027

5.4.6.1 Requirement

Permit Condition 4.8 of the Tier I OP states:

"The pressure differential across the planer shavings cyclone baghouse shall be maintained within the manufacturer's and O&M manual's specifications. Documentation of both the manufacturer's and O&M manual's operating pressure differential specifications shall remain onsite at all times and shall be available to Department representatives upon request."

This is a direct quote of Permit Condition 2.6 for the planer shavings cyclone baghouse from PTC No. 017-00027, dated June 26, 2001, and is therefore an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01.

5.4.6.2 Monitoring, Recordkeeping, and Reporting

Permit Condition 4.9 of the Tier I OP states:

"The permittee shall monitor and record once per day, while in operation, the pressure differential across the planer shavings cyclone baghouse. Records of the pressure differential shall remain onsite for the most recent two-year period and shall be made available to Department representatives upon request."

Permit Condition 4.13 requires a summary report of the records generated by Permit Condition 4.9 every six months.

5.5 EMISSIONS UNIT – MISCELLANEOUS SOURCES

5.5.1 Emissions Unit Description

The sources listed in this section of the Tier I OP are not currently subject to regulation(s) under any other DEQ-issued permits. These sources have potential PM emission rates exceeding 10% of the significance level in IDAPA 58.01.01.006.92 and do not meet any other criteria for insignificant sources listed in IDAPA 58.01.01.317. These sources are also subject to IDAPA 58.01.01.702. Therefore, they are grouped together in this section with applicable requirements of the *Rules*. The following sources are included in this permit as miscellaneous sources: debarker, bark hog shredder, drying kilns, sawdust bin truck loadout, and sawmill chip bin truck loadout.

5.5.2 Process Weight Rate, IDAPA 58.01.01.702

5.5.2.1 Requirement

Permit Condition 5.1 of the Tier I OP states:

"The debarker, bark hog shredder, drying kilns, sawdust bin truck loadout, and sawmill chip bin truck loadout shall not emit to the atmosphere PM in excess of the amount shown by the following equations, where E is the allowable emission from the entire source in pounds per hour, and PW is the process weight in pounds per hour:

- a. If PW is less than 17,000 pounds per hour,
 $E = 0.045(PW)^{0.60}$
- b. If PW is equal to or greater than 17,000 pounds per hour,
 $E = 1.12(PW)^{0.27}$

Permit Condition 5.1 was applied to all sources listed in the Miscellaneous Sources because these unit processes meet the definition of process equipment in IDAPA 58.01.01.006.79 and are therefore subject to IDAPA 58.01.01.702. Therefore, it is an applicable regulation, for Tier I OP concerns, in accordance with IDAPA 58.01.01.322.01.

5.5.2.2 Monitoring, Recordkeeping, and Reporting

There are no monitoring, recordkeeping, or reporting requirements required for Permit Condition 5.1 because the potential emissions of each unit are much less than the emission limits required in Permit Condition 5.1. A spreadsheet showing the potential emissions and the emission limits for each unit is given in Appendix D of this technical memorandum. Although there are no monitoring, recordkeeping, or reporting requirements required for the process weight rate standard, the requirement itself was included in the Tier I OP because it is an applicable requirement.

6. INSIGNIFICANT ACTIVITIES

The insignificant activities, described by the source in accordance with IDAPA 58.01.01.317, are listed below. Emissions calculations showing compliance with the provisions of IDAPA 58.01.01.317.01(b) (i)(30) are available in the Riley Creek Tier I OP application.

Description	Insignificant Activities Section Citation IDAPA 58.01.01.17.01(b)(i)
Sawmill, Indoor	IDAPA 58.01.01.317.01(b)(i)(30)
Sawmill Screen (classifier), Indoor	IDAPA 58.01.01.317.01(b)(i)(30)
Sawmill Chipper, Indoor	IDAPA 58.01.01.317.01(b)(i)(30)
Planer, Indoor	IDAPA 58.01.01.317.01(b)(i)(30)
Planer Chipper, Indoor	IDAPA 58.01.01.317.01(b)(i)(30)
Planer Trimmer, Indoor	IDAPA 58.01.01.317.01(b)(i)(30)
Planer Shavings Convey	IDAPA 58.01.01.317.01(b)(i)(30)
Planer Shavings Bin Truck Loadout	IDAPA 58.01.01.317.01(b)(i)(30)
Fire Water Pump	IDAPA 58.01.01.317.01(b)(i)(30)
Small Generators and Compressors	IDAPA 58.01.01.317.01(b)(i)(6)

7. ALTERNATIVE OPERATING SCENARIOS

No alternative operating scenarios were identified by the facility.

8. TRADING SCENARIOS

There were no trading scenarios requested by the facility.

9. COMPLIANCE PLAN AND COMPLIANCE CERTIFICATION

9.1 COMPLIANCE PLAN

Riley Creek's Tier I OP application indicated that the facility was in compliance with all applicable regulations at the time the application was submitted; therefore, no compliance schedule is required at this time. Any applicable requirement that becomes effective during the term of this permit shall be met on a timely basis, and continual compliance must be shown for each applicable requirement with which the permittee was in compliance at the time the Tier I OP application was submitted. Refer to General Provision 7.20 of the permit.

9.2 COMPLIANCE CERTIFICATION

The permittee is required to submit a periodic compliance certification for each emissions unit in the form of an annual report to the Department and EPA within 30 days after the end of each calendar year. The permittee must certify compliance with all terms and conditions of the permit including, but not limited to, fugitive emissions standards, visible emissions standards, steam production, compliance testing, ESP voltage and amperage, and baghouse pressure differential in accordance with IDAPA 58.01.01.322.11. Refer to General Provision 7.21 of the permit.

10. ACID RAIN PERMIT

This does not apply to this facility.

11. AIRS DATABASE

This permit does not represent a new source at the Riley Creek facility; therefore, no Abbreviated AIRS Data Entry Sheet is required.

AIRS/AFS^a FACILITY-WIDE CLASSIFICATION^b DATA ENTRY FORM

Air Program Description	SIP ^c	PSD ^d	NESHAP ^e	NSPS ^f	MACT ^g	TITLE V	AREA CLASSIFICATION
							A – Attainment U – Unclassifiable N – Nonattainment
SO ₂ ^h	B					B	U
NOx ⁱ	B					B	U
CO ^j	A	A				A	U
PM ₁₀ ^k	A					A	U
PM ^l	A					A	U
VOC ^m	B					B	U
Total HAPs ⁿ							U

^a Aerometric Information Retrieval System/AIRS Facility Subsystem

^b AIRS/AFS classification codes:

A = actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant which is below the 10 ton-per-year (T/yr) threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.

SM = potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = actual and potential emissions below all applicable major source thresholds.

C = class is unknown.

ND = major source thresholds are not defined (e.g., radionuclides).

^c State Implementation Plan

^d Prevention of Significant Deterioration

^e National Emission Standards for Hazardous Air Pollutants

^f New Source Performance Standards

^g Maximum Achievable Control Technology

^h sulfur dioxide

ⁱ nitrogen oxide

^j carbon monoxide

^k particulate matter with an aerodynamic diameter of 10 microns or less

^l particulate matter

^m volatile organic compounds

ⁿ hazardous air pollutants

12. REGISTRATION FEES

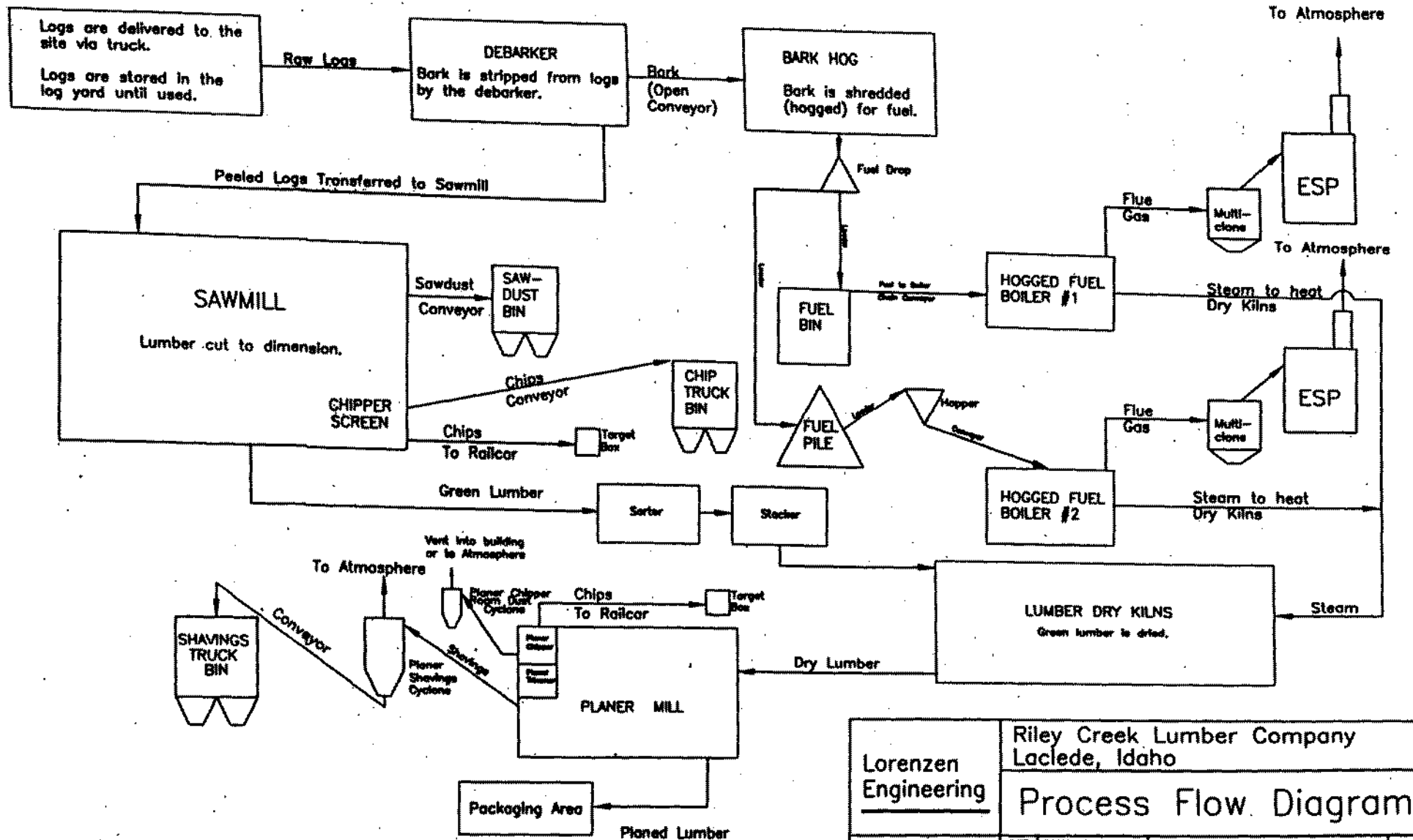
The Riley Creek facility is a major facility as defined by IDAPA 58.01.01.008.10, and is therefore subject to annual registration and registration fees (IDAPA 58.01.01.525-538). According to the Air Emissions Database Master List for 2001, Riley Creek has registered 171.14 tons by paying fees as required by IDAPA 58.01.01.527.

13. RECOMMENDATION

Based on the Tier I application and review of the federal regulations and state rules, staff recommends DEQ issue a draft Tier I OP to Riley Creek for its facility located in Laclede, Idaho.

APPENDIX A
Riley Creek Lumber Co., Laclede
Tier I Operating Permit/P-9504-042-1
Schematic Diagram of Process Flow

DRAFT



Lorenzen Engineering	Riley Creek Lumber Company Laclede, Idaho			
	Process Flow Diagram			
Drawn by: EMG	SIZE B	PSCN NO.	DWG NO.	Figure 3

APPENDIX B
Riley Creek Lumber Co., Lacide
Tier I Operating Permit/P-9504-042-1
Process Weight Rate Calculations for Rail Car Target Box

DRAFT

- PROCESS WEIGHT RATE CALCULATIONS FOR RAIL CAR TARGET BOX

1) KNOWN VARIABLES:

- TARGET BOX LOADING, FROM SAWMILL: 60,000 T/YR
 - TARGET BOX LOADING, FROM PLANER: 20,000 T/YR
 - TARGET BOX LOADING (TOTAL) : 80,000 T/YR
 - HOURS OF OPERATION: 8760 hr/YR
 - EMISSION FACTOR (PM): 0.1 lb PM/T
- ↳ FROM "IDAHO DEQ EMISSION FACTOR GUIDE FOR WOOD INDUSTRY"

2) EMISSION ESTIMATES (E):

$$E_{yr} = (80,000 \text{ T/YR}) (0.1 \text{ lb PM/T}) \left(\frac{\text{T}}{2000 \text{ lb}} \right)$$

$$= \underline{4 \text{ T/YR}}$$

$$E_{hr} = 4 \text{ T/YR} \left(\frac{2000 \text{ lb}}{\text{T}} \right) \left(\frac{\text{YR}}{8760 \text{ hr}} \right)$$

$$= \underline{0.91 \text{ lb/hr}}$$

3) PROCESS WEIGHT RATE - PM EMISSION LIMIT (IDAPA 58.01.01.702):

$$\text{PWR} = 80,000 \text{ T/YR} \left(\frac{\text{YR}}{8760 \text{ hr}} \right) \left(\frac{2000 \text{ lb}}{\text{T}} \right) = 18,264.8 \text{ lb/hr}$$

$$\therefore E = 1.12 (\text{PWR})^{0.27}$$

$$= 1.12 (18,264.8)^{0.27}$$

$$= \underline{15.84 \text{ lb/hr}}$$

\therefore SINCE POTENTIAL EMISSION ESTIMATE IS MUCH LESS THE EMISSION LIMIT, COMPLIANCE IS DEMONSTRATED.

APPENDIX C
Riley Creek Lumber Co., Laclede
Tier I Operating Permit/P-9504-042-1
Planer Shavings Cyclone Baghouse Emissions Estimates

DRAFT

- PLANER SHAWINGS CYCLONE BAGHOUSE EMISSION ESTIMATES

1) KNOWN VARIABLES:

- HOURS OF OPERATION: 8760 hrs/yr
- FLOWRATE: 50,000 DSCF/min
- EMISSION FACTOR: 0.005 gr/DSCF (MANUFACTURER'S GUARANTEE)

2) EMISSION ESTIMATES (E):

$$E_{hr} = (0.005 \text{ gr/DSCF}) (1 \text{ lb}/7000 \text{ gr}) (50,000 \text{ DSCF/min}) (60 \text{ min/hr})$$
$$= \underline{\underline{2.14 \text{ lb/hr}}}$$

$$E_{yr} = 2.14 \text{ lb/hr} (8760 \text{ hr/yr}) (1 \text{ T}/2000 \text{ lb})$$
$$= \underline{\underline{9.38 \text{ T/yr}}}$$

3) PERMIT LIMITS (PERMIT CONDITION 4.2 OF TIER I):

- 0.1 gr/DSCF
- 2.14 lb/hr
- 9.39 T/yr

\therefore COMPLIANCE IS DEMONSTRATED IF BAGHOUSE
IS OPERATED ACCORDING TO SPEC.

APPENDIX D
Riley Creek Lumber Co., Laclede
Tier I Operating Permit/P-9504-042-1
Process Weight Rate Calculations for Miscellaneous Sources

DRAFT

PROCESS WEIGHT RATE CALCULATIONS FOR MISCELLANEOUS SOURCES

Emission Factors taken from "Idaho DEQ Emission Factor Guide for Wood Industry" (version 01/97-draft)

Unit Name	Emission Factor (lb PM/ton)*	Process Rate (ton/yr)**	Potential Emissions (lb PM/hr)	PWR Emission Limit*** (lb/hr)
Debarker	0.024	1000000	2.75	31.36
Bark Hog Shredder	0.1	115000	1.32	17.49
Drying Kilns	0.033	200000	0.76	41.86****
Sawdust Bin Truck Loadout	0.1	74000	0.85	15.51
Sawmill Chip Bin Truck Loadout	0.1	60000	0.69	13.68

*lb PM/Mbdft for kilns (assuming 90% controlled emissions)

**Mbdft/yr for kilns

***From IDAPA 58.01.01.702

****Using the following conversion factors: 1bdft = 0.8333cft; and ave. wood density of 35lb/cft (Perry's Chemical Engineer's Handbook)

APPENDIX E
Riley Creek Lumber Co., Laclede
Tier I Operating Permit/P-9504-042-1
Response to Public Comments

February 27, 2002

**STATE OF IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY
RESPONSE TO PUBLIC COMMENTS
ON DRAFT AIR QUALITY TIER I OPERATING PERMIT
FOR RILEY CREEK LUMBER COMPANY, LACLEDE, IDAHO**

Introduction

As required by IDAPA 58.01.01.364 (*Rules for the Control of Air Pollution in Idaho*), the Idaho Department of Environmental Quality (DEQ) provided for public notice and comment, including offering an opportunity for a hearing, on the Tier I operating permit drafted for Riley Creek Lumber Company's (Riley Creek), Laclede, Idaho facility. Public comment packages, which included the application materials, and draft permit and technical memorandum, were made available for public review at the West Bonner County Public Library in Priest River, DEQ's Coeur d'Alene Regional Office, and DEQ's State Office in Boise. The public comment period was provided from January 11, 2002 through February 15, 2002, and a public hearing was held on February 14, 2002 in the Frank Chapin Citizen Center in Priest River. Those comments regarding the air quality aspects of the draft permit are provided below with DEQ's response immediately following. No entity requested an opportunity for a hearing.

Public Comments and DEQ Responses

Comment 1: **Emission Limit Increases**

Several comments received by DEQ expressed concern that the draft Tier I operating permit allowed Riley Creek an increase in the permitted emission limit for particulate matter.

Response to 1: The draft Tier I operating permit does not increase the emission limits for any pollutant. The purpose of the Tier I operating permit is to consolidate all existing applicable requirements into one operating permit. In many cases, the Tier I operating permit has established additional monitoring, recordkeeping, and reporting requirements to assure that Riley Creek is in compliance with these applicable requirements.

Comment 2: **Permit Condition 4.1/Numbering Error**

One comment received by DEQ noted that there was a numbering error in which Permit Condition 4.1 appears to be missing.

Response to 2: The permit condition numbering in Section 4 of the draft Tier I operating permit prepared for public comment started with 4.2. This was a formatting error and has been corrected. There were no missing permit conditions in the draft Tier I operating permit provided for public comment.

Comment 3: **Compliance Testing**

One comment received by DEQ expressed a need for testing conducted by an outside party. The comment also requested a particulate monitoring device.

Response to 3: The first part of this comment appears to imply that an outside party is required to conduct impartial, representative performance testing for the facility. Although DEQ does not require a specific party to conduct the performance tests required in operating permits, DEQ does review the test methodology and results in accordance with IDAPA 58.01.01.157.05. If the required testing does not meet all of the requirements of IDAPA 58.01.01.157.05, DEQ has the authority to reject the testing as invalid. The provisions of IDAPA 58.01.01.157.05 are sufficient to ensure accurate and representative performance testing at Riley Creek.

The second part of this comment appears to refer to a device that would monitor the actual particulate emission rates from sources at the Riley Creek facility. The two wood-fired boilers operated at Riley Creek represent the main sources of particulate emissions.

Permit Conditions 2.12 and 3.13 specify that performance tests be conducted for each boiler in accordance with Permit Condition 1.15, which specifies that any compliance testing required in the Tier I operating permit shall be conducted in accordance with IDAPA 58.01.01.157. This provision of the *Rules for the Control of Air Pollution in Idaho* requires facilities to conduct performance tests at worst-case normal operating conditions (since no other conditions are specified in the draft Tier I operating permit). Permit Conditions 2.12 and 3.13 also specify that the steam production rate of each boiler must be recorded during the performance test; therefore, the tests will establish a correlation between steaming rate and emission rates for particulate matter at worst-case normal operating conditions. Permit Conditions 2.11 and 3.12 require Riley Creek to record the hourly steam production rates of each boiler; therefore, the source tests can be used in conjunction with the steaming rate records to establish particulate emissions from either boiler for any given time period. The steaming rate monitoring is used as a surrogate method for monitoring actual particulate emission rates from the two boilers.